

Applicant : Hal P Lin KUO

Serial No. :

Docket Number :

11509 B

Art Unit :

Examiner :

Filed :

TREADMILL HAVING A CUSHIONED

DECK LIMITING DEVICE

Transmitted herewith in the following:

☐ Application for Letters Patent
☐ Application for Design Patent
☒ Seven (7) Formal Sheets of Drawings
☐ Assignment for Recordation
☐ Amendment
☐ Issue Fee Transmittal Form
☒ Other Acknowledgement postcard: Form PTO-1449 List of Art Cited by Applicant

☐ Trademark Application
☐ Service Mark Application
☐ Affidavit under Section 8 & 15
☐ Application for Renewal
☐ Notice of Appeal
☐ Brief on Appeal (in triplicate)

& copy of US Patent 5,279,528.
 The filing fee has been calculated below:

	(Col. 1)	(Col. 2)
FOR:	NO. FILED	NO. EXTRA
	XXXXXXXXXX	XXXXXXXXXXXX
	XXXXXXXXXX	XXXXXXXXXXXX
BASIC FEE	XXXXXXXXXX	XXXXXXXXXXXX
TOTAL CLAIMS	10 -20=	* 0
INDEP. CLAIMS	2 -3=	* 0
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENTED		

* If the difference in Col. 1. is less than zero, enter "0" in Col. 2.

SMALL ENTITY	
RATE	FEE
XXXXXX	XXXXXX
XXXXXX	\$380.
x9=	\$ 0
x39=	\$ 0
\$130.	\$
	\$345.
TOTAL	\$

OTHER THAN A SMALL ENTITY	
RATE	FEE
XXXXXX	XXXXXX
XXXXXX	\$
x18.	\$
x78.	\$
	\$
\$260.	\$
	\$
TOTAL	\$

☒ A verified statement to establish small entity status under 37 CFR 1.9 and 37 CFR 1.27. (Independent Inventor)

Please charge my Deposit Account No. 02-1435 in the amount of \$ _____.
 A duplicate copy of this sheet is enclosed.

☒ A check in the amount of \$ 345.00 to cover the filing fee is enclosed.

☒ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 02-1435. A duplicate copy of this sheet is enclosed.

☒ Any additional filing fees required under 37 CFR 1.16.
☒ Any patent application processing fees under 37 CFR 1.17.

☒ The Commissioner is hereby authorized to charge payment of the following fees during pendency of this application or credit any overpayment to Deposit Account No. 02-1435. A duplicate copy of this sheet is enclosed.

☒ Any patent application processing fees under 37 CFR 1.17.

Any issue fee set in 37 CFR 1.18 at or before mailing of the Notice of Allowance, pursuant to 37 CFR 1.311(b).

☒ Any filing fees under 37 CFR 1.16 for presentation of extra claims.

☒ I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents & Trademarks, Washington, D.C. 20231 on July 19, 2000.

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Respectfully submitted,

Charles E. Baxley

CEB:RRD

Dated:

July 19, 2000

CHARLES E. BAXLEY
USPTO REG. 20,149

USPTO Reg 20,149

JCS43 USPTO 09/625214

07/24/00

Applicant or Patentee: Hai Pin KUO Docket #: 11509 B
 Serial or Patent Number: _____ Examiner: _____
 Filed or Issued: _____ Art Unit: _____
 For: TREADMILL HAVING A CUSHIONED DECK LIMITING DEVICE

**VERIFIED STATEMENT (DECLARATION) BY AN INDEPENDENT INVENTOR
 CLAIMING SMALL ENTITY STATUS UNDER 37 CFR 1.9(f) AND 1.27(b)**

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled TREADMILL HAVING A CUSHIONED DECK LIMITING DEVICE

by Hai Pin KUO _____
(inventor(s))

described in:

- ☒ The specification filed herewith.
☐ Patent application serial number _____, filed _____
☐ PCT International patent application number _____, filed _____
☐ Patent number _____, issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed or licensed or am under an obligation under contract or law to assign, grant, convey or license any rights in the invention is listed below:

- ☒ No such person, concern or organization.
☐ Persons, concerns or organizations listed below. *Note: Separate verified statements are required from each named person, concern or organization having rights in the invention averring to their status as small entities (37 CFR 1.27).*

Full Name: _____

Address: _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

Full Name: _____

Address: _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

☐ See attached sheet for additional person(s), concern(s) or organization(s).

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine, or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which the verified statement is directed.

	Inventor 1	Inventor 2	Inventor 3
Name	Hai Pin KUO		
Signature	X <i>Hai Pin KUO</i>		
Date	May 16, 2000		

TREADMILL HAVING A CUSHIONED DECK LIMITING DEVICE
BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to an exerciser, and
05 more particularly to an exercise treadmill having a
device for limiting the movement of the cushioned deck
relative to base frame thereof and for preventing the
deck from being disengaged from the cushioning member
and the base frame.

10 2. Description of the Prior Art

Typical treadmills comprise a base frame supported
on a supporting surface or the ground, a pair of
transverse forward and rearward roller assemblies
mounted in the base frame, and an endless belt trained
15 about the forward and rearward roller assemblies. A
deck is disposed and positioned between the base frame
and the upper run of the belt. The treadmills may
include a handle support for supporting one or more
handles thereon and for supporting the upper portion of
20 the user, and may include a motor driving device for
driving the endless belt. Some of the exercisers
include a cushioning device for resiliently supporting
the deck and for absorbing the shocks and vibrations or
impact loads acted onto the deck by the users. US
25 Patent No. 5,279,528 to Dalebout et al., discloses one
of the exercisers having a cushioning device for
resiliently supporting the deck. However, no devices

have been provided to limit the lateral movement of the cushioned deck relative to the base frame.

The present invention has arisen to mitigate and/or obviate the afore-described disadvantages of the conventional exercisers.

SUMMARY OF THE INVENTION

The primary objective of the present invention is to provide a treadmill including a device for limiting the lateral movement of the cushioned deck relative to the base frame thereof and for preventing the deck from being disengaged from the cushioning member and the base frame.

In accordance with one aspect of the invention, there is provided a treadmill comprising a base frame including a pair of transverse forward and rearward roller assemblies mounted therein, the base frame including a peripheral portion, an endless belt trained about the forward and rearward roller assemblies and including an upper run, a deck including a peripheral portion disposed between the peripheral portion of the base frame and the upper run of the belt, at least one cushioning member disposed between the peripheral portion of the deck and the peripheral portion of the base frame to absorb impact loads imparted on the deck by users, and limiting means for limiting a relative lateral movement between the deck and the cushioning member and the base frame and to prevent the deck from

being disengaged from the cushioning member and the base frame.

05 The deck includes at least one opening formed therein, the limiting means includes at least one stop member secured on the base frame and slidably received in the opening of the deck for limiting the relative lateral movement between the deck and the cushioning member and the base frame. The deck includes a sleeve engaged in the opening thereof for slidably receiving 10 the stop member. The sleeve includes an outer thread formed thereon and engaged in the deck for solidly securing the sleeve in the deck.

15 The stop member is a barrel including an inner cylindrical member and an outer cylindrical member provided and secured on the inner cylindrical member. The limiting means includes a fastener engaged through the inner cylindrical member of the barrel and secured to the base frame, the outer cylindrical member is made of soft materials to absorb impact loads acting onto 20 the barrels. The base frame includes at least one extension extended therefrom for supporting the fastener.

25 One or more casings are further engaged onto the peripheral portion of the deck and secured to the deck to protect the peripheral portion of the deck. The casing includes at least one channel formed therein and includes at least one flange extended inward of the

channel thereof, the securing means includes a least one fastener secured on the peripheral portion of the deck and slidably received in the channel of the casing and having a head provided thereon for engaging with the flange of the casing and for securing the casing to the peripheral portion of the deck and to cover and protect the peripheral portion of the deck.

Further objectives and advantages of the present invention will become apparent from a careful reading of a detailed description provided hereinbelow, with appropriate reference to accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a treadmill in accordance with the present invention;

FIGS. 2, 3, 4 are partial exploded views of the treadmill;

FIG. 5 is a partial cross sectional view taken along lines 5-5 of FIG. 1;

FIG. 6 is a partial cross sectional view taken along lines 6-6 of FIG. 5;

FIG. 7 is a partial cross sectional view similar to FIG. 6, illustrating the operation of the cushioned deck limiting device for the treadmill; and

FIGS. 8 and 9 are simplified partial cross sectional views similar to FIG. 5, illustrating the operation of the cushioned deck limiting device for the treadmill.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, and initially to FIGS. 1-5, a treadmill in accordance with the present invention comprises a base frame 1 including a handle support 12 upwardly extended from the front portion thereof for supporting the handles 13 and/or the displayer device 14 thereon. The base frame 1 includes a pair of transverse forward and rearward roller assemblies 17 mounted therein, preferably disposed between a pair of parallel side margins or side portions or side beams 11. An endless belt 15 is trained about the forward and rearward roller assemblies 17. A deck 4 is disposed and positioned between the beams 11 of the base frame 1 and the upper run of the belt 15. One (FIG. 3) or more (FIG. 2) cushioning members 2, such as the springs, the spongy members, the rubber tubular members etc., of a suitable stiffness are provided and disposed either along the sides of the base frame 1, particularly the beams 11 of the base frame 1, to underlie the side margins of the deck 4, or transversely of the deck 4, to absorb impact loads imparted on the deck 4 by the user. The base frame 1 includes a housing 18 provided in the front portion thereof for receiving such as the motor driving device therein. The driving motor is not related to the present invention and will not be described in further details. The treadmill in accordance with the present

invention is to provide a device for limiting the lateral movement of the cushioned deck relative to base frame.

Referring to FIGS. 2, 3 and 5-9, the deck 4, particularly the peripheral portion of the deck 4, includes a number of openings 41 formed therein. A number of sleeves 42 are force-fitted in the respective openings 41 of the deck 4 and each includes an embossed outer surface or each includes an outer thread 421 formed thereon for engaging with the deck 4 and for solidly securing the sleeves 42 in the deck 4. The sleeves 42 may also be forced into the deck 4 with the threading operations. The sleeves 42 each includes a bore 44 formed therein. A number of stop members 31, such as the stop barrels 31, each includes an inner cylindrical member 311 of metal or the other high strength materials, and each includes an outer cylindrical member 312 provided or secured on the outer portion of the inner cylindrical member 311. The outer cylindrical member 312 is preferably made of rubber or plastic or the other soft materials for absorbing the impact loads of the deck 4 laterally acted onto the barrels 31. A number of fasteners 3 are threaded through the barrels 31 and secured to the beams 11 or to the base frame 1. As shown in the drawings, the beams 11 each includes one or more extensions 16 extended therefrom and having a screw hole 161 formed

therein for threading with the fasteners 3 and for rotatably securing the barrels 31 to the base frame 1. The stop barrels 31 are loosely and slidably received in the sleeves 42 relatively.

05 Referring again to FIGS. 1, 4 and 5, a pair of casings 6 are further provided for attaching and mounting onto the side margins or the side edges of the deck 4 for engaging with and for limiting the sidewise movement of the endless belt 15 relative to the deck 4.

10 A number of fasteners 5 are secured to, such as threadedly secured to the screw holes 43 of the deck 4 (FIG. 4). The fasteners 5 each includes an enlarged head 51 formed on top thereof. The casings 6 each includes one or more channels 61 formed therein for

15 slidably receiving the fasteners 5, and each includes one or more flanges 62 extended laterally inward of the respective channels 61 for engaging with the heads 51 of the fasteners 5 and for securing the casings 6 to the deck 4 and to cover and protect the side margins or

20 side edges of the deck 4. The casings 6 each includes a panel 63 dependent downwardly therefrom for engaging with and for covering and protecting the outer peripheral surface 47 (FIG. 4) of the deck 4.

25 As best shown in FIGS. 5-9, in operation, the cushioning members 2 may be deformed (FIG. 7) to absorb the impact loads imparted on the deck 4 by the user. The stop barrels 31 may be slidably received in the

sleeves 42 relatively (FIGS. 6, 7). In addition to the upward and downward movement of the deck 4 relative to the cushioning members 2 and the base frame 1, the deck 4 may also be shaken or moved laterally, such as forwardly or rearwardly or sidewise, relative to the cushioning members 2 and the base frame 1 (FIGS. 8, 9). The sliding engagement of the stop barrels 31 in the respective sleeves 42 may thus be used to limit the relative lateral movement between the deck 4 and the cushioning members 2 and the base frame 1, and thus to prevent the deck 4 from being disengaged from the cushioning members 2.

Accordingly, the treadmill in accordance with the present invention includes a device for limiting the lateral movement of the cushioned deck relative to base frame thereof.

Although this invention has been described with a certain degree of particularity, it is to be understood that the present disclosure has been made by way of example only and that numerous changes in the detailed construction and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as hereinafter claimed.

I CLAIM:

1. A treadmill comprising:

a base frame including a pair of transverse forward and rearward roller assemblies mounted therein, said base frame including a peripheral portion,

05 an endless belt trained about said forward and rearward roller assemblies and including an upper run,

a deck including a peripheral portion disposed between said peripheral portion of said base frame and said upper run of said belt,

10 at least one cushioning member disposed between said peripheral portion of said deck and said peripheral portion of said base frame to absorb impact loads imparted on said deck by users, and

limiting means for limiting a relative lateral movement between said deck and said at least one cushioning member and said base frame.

2. The treadmill according to claim 1, wherein said deck includes at least one opening formed therein, said limiting means includes at least one stop member secured on said base frame and slidably received in said at least one opening of said deck for limiting the relative lateral movement between said deck and said at least one cushioning member and said base frame.

05 3. The treadmill according to claim 2, wherein said deck includes a sleeve engaged in said at least one opening thereof for slidably receiving said at

04 least one stop member.

 4. The treadmill according to claim 3, wherein
said sleeve includes an outer thread formed thereon and
engaged in said deck for solidly securing said sleeve
04 in said deck.

 5. The treadmill according to claim 2, wherein
said at least one stop member is a barrel including an
inner cylindrical member and an outer cylindrical
member provided and secured on said inner cylindrical
05 member.

 6. The treadmill according to claim 5, wherein
said limiting means includes a fastener engaged through
said inner cylindrical member of said barrel and
secured to said base frame, said outer cylindrical
05 member is made of soft materials to absorb impact loads
acting onto said barrels.

 7. The treadmill according to claim 6, wherein
said base frame includes at least one extension
03 extended therefrom for supporting said fastener.

 8. The treadmill according to claim 1 further
comprising at least one casing engaged onto said
peripheral portion of said deck, and securing means for
securing said at least one casing to said deck and to
05 protect said peripheral portion of said deck.

 9. The treadmill according to claim 8, wherein
said at least one casing includes at least one channel
formed therein and includes at least one flange

extended inward of said at least one channel thereof.
05 said securing means includes a least one fastener
secured on said peripheral portion of said deck and
slidably received in said at least one channel of said
at least one casing and having a head provided thereon
for engaging with said at least one flange of said at
10 least one casing and for securing said at least one
casing to said peripheral portion of said deck.

10. A treadmill comprising:

a base frame including a pair of transverse
forward and rearward roller assemblies mounted therein,
said base frame including a pair of side beams,
05 an endless belt trained about said forward and
rearward roller assemblies and including an upper run,
a deck including two side portions disposed
between said side beams of said base frame and said
upper run of said belt,
10 said side beams of said deck each including at
least one cushioning member disposed thereon and
engaged with said side portions of said deck to absorb
impact loads imparted on said deck by users, and
limiting means for limiting a relative lateral
15 movement between said deck and said at least one
cushioning member and said base frame.

ABSTRACT

A treadmill includes a base frame having an endless trained about the forward and rearward rollers. A deck is disposed between the base frame and the upper
05 run of the belt. One or more cushioning members are disposed between the peripheral portion of the deck and the base frame to absorb impact loads imparted on the deck by users. One or more stop barrels are secured on the base frame and slidably and loosely received in the
10 respective openings or sleeves of the deck to limit the relative lateral movement between the deck and the cushioning member and the base frame.

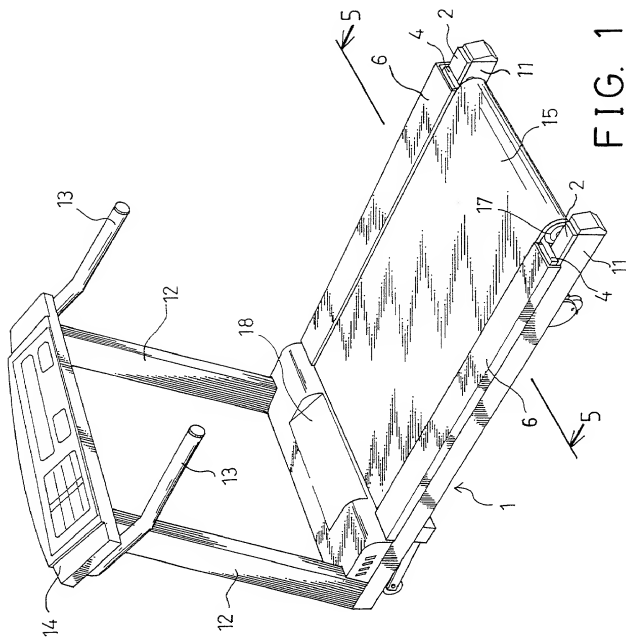


FIG. 1

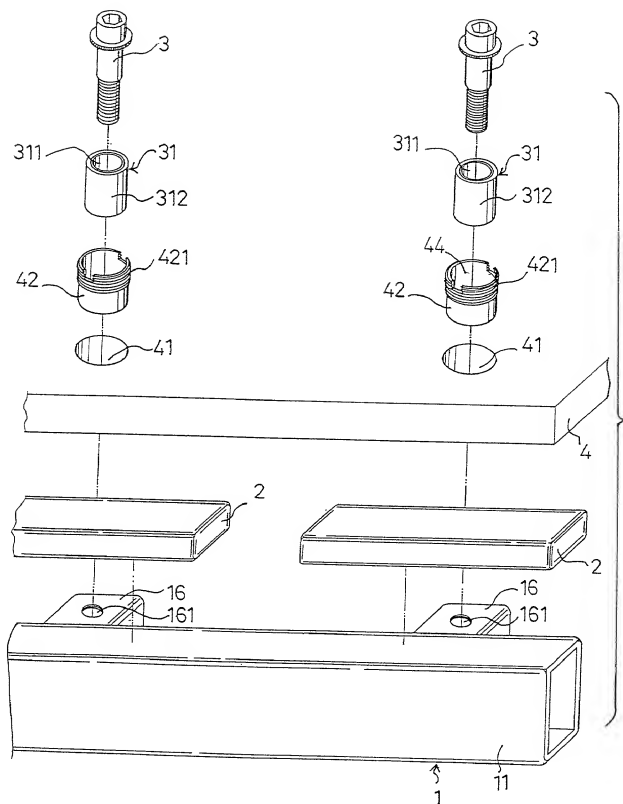


FIG. 2

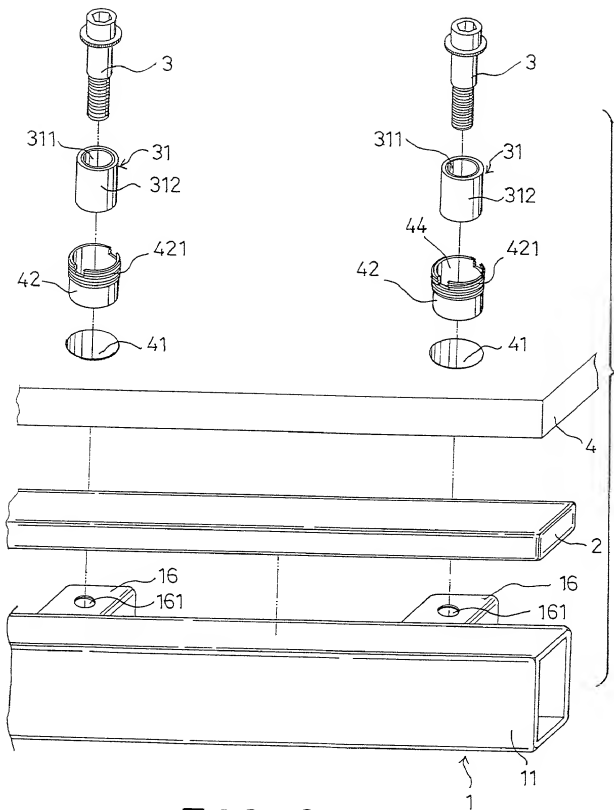


FIG. 3

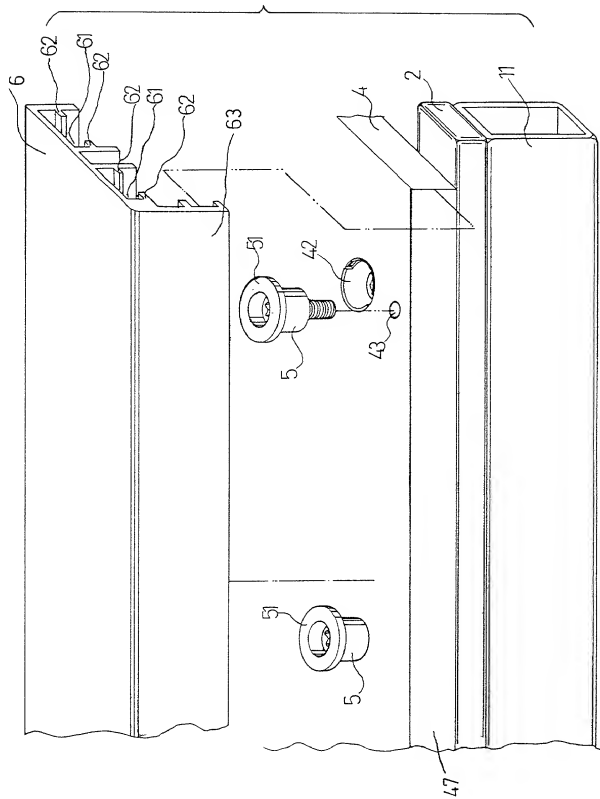


FIG. 4

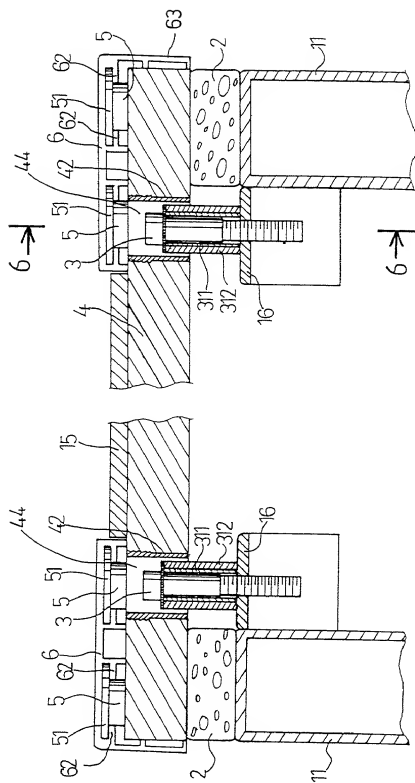


FIG. 5

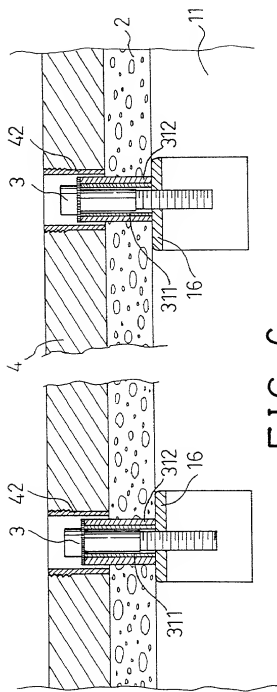


FIG. 6

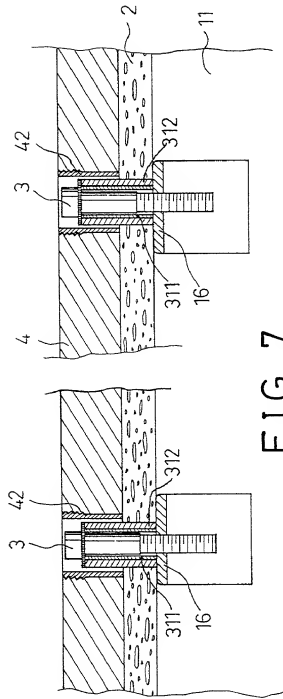


FIG. 7

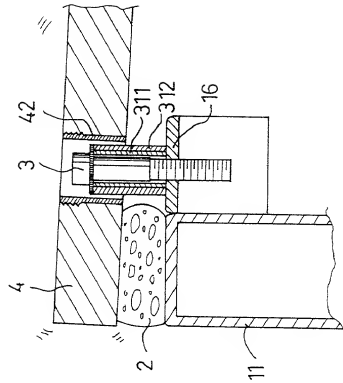


FIG. 8

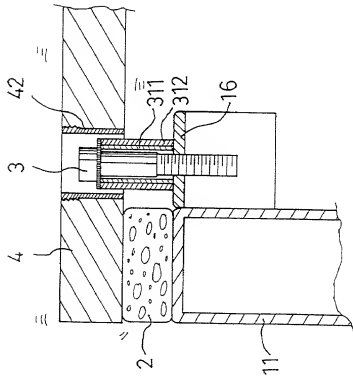


FIG. 9

COMBINED DECLARATION/POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

TREADMILL HAVING A CUSHIONED DECK LIMITING DEVICE

the specification of which (check one)

☒ is attached hereto

☐ was filed on _____
as U. S. Application
Serial No. _____
and was amended on _____

(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefit(s) under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application(s) for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Claimed

(Number) _____	(Country) _____	Day/Month/Year Filed) _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No
(Number) _____	(Country) _____	Day/Month/Year Filed) _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No
(Number) _____	(Country) _____	Day/Month/Year Filed) _____	<input type="checkbox"/> Yes	<input type="checkbox"/> No

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37 Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.) _____	(Filing Date) _____	(Status) (patented, pending, abandoned) _____
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(Application Serial No.) _____	(Filing Date) _____	(Status) (patented, pending, abandoned) _____
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POWER OF ATTORNEY:

As a named inventor, I hereby appoint the following attorneys and agent:

CHARLES E. BAXLEY, ESQ. PTO REG# 20,149;
59 John Street, 5th Floor,
New York, New York 10038

to prosecute this application and

transact all business in the Patent and Trademark Office connected therewith.

Send correspondence to: CHARLES E. BAXLEY
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Direct telephone calls to:

(212) 791-7200

Charles E. Baxley, Esquire

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Hai Pin KUO Date May 16, 2000
Inventor's Signature Hai Pin Kuo
Residence No. 158, Sec. 1, Er Jen Road, Jen Teh Hsiang, Tainan Hsien, Taiwan 717 Citizenship Taiwan
Post Office Address No. 158, Sec. 1, Er Jen Road, Jen Teh Hsiang, Tainan Hsien, Taiwan 717